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A Study on the acceptance of e-recruitment systems in Libya's higher education sector —Unified Theory of Acceptance and Use of Technology Model (UTAUT)

Ebtesam Taktek [1], Mostafa Brka[2], Osama Shtewi[3], Salem Ekare[4], Mohamed Zawawi[5]
[1,2,3,4] Department of Information Technology, Higher Institute of Science & Technology – AlShumukh، Tripoli, Libya
[5]Undergradraduate student, Department of Information Technology, Higher Institute of Science & Technology – AlShumukh، Tripoli, Libya
* Corresponding: Ebtesam.tk@shomokh.edu.ly
Ebtesam.tk@gmail.com
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Abstract

Facilitating job search and connecting graduates and researchers with suitable employment has a positive social impact. This study aims to comprehend several elements that affect the adoption of e-recruitment systems. The researchers attempted to test the theoretical idea among participants from different universities in Libya and higher institutes with different education levels within the framework of the "Unified Theory of Acceptance and Use of Technology" (UTAUT) model. It was discovered that the UTAUT model is suitable for evaluating the technological adoption of e-recruitment systems. The UTAUT has a Cronbach's alpha of 0.918 for the Behavioral Intention, indicating a high degree of validity and acceptance of technology use. According to analysis, the mean response value for each survey element was 4.0 overall, indicating a high demand for the system as compared to the minimum of 3.4 based on the Likert scale.

Keywords: E-recruitment, Libyan universities, UTAUT, Unified Theory of Acceptance and Use of Technology.

1. Introduction

Recruitment is the process of attracting and selecting prospective employees based on the needs and evaluation of an institution or company [1]. With the advancement of technology, e-recruitment has become a popular method of attracting, screening, and selecting qualified individuals for job vacancies. E-recruitment is considered to be the most effective way for both job applicants and companies [1, 2]. The traditional recruitment process in Libya's higher education sector, which relies on manual application submission, suffers from several limitations. The manual process is time-consuming and inefficient, both for applicants and recruitment staff [3] . The lack of an electronic platform makes it difficult for applicants to track the status of their applications and receive timely updates [3, 4]. This lack of transparency can lead to frustration and delays in the hiring process [4].
In this paper, the authors applied the UTAUT model to introduce e-recruitment systems in Libya in order to address these challenges. Our work is evaluated in terms of the Performance Expectancy, Effort Expectancy, Social Influence, facilitating conditions, and Behavioral Intention factors for the e-recruitment. It also evaluated the e-recruitment's ability based on the Likert scale.
The remaining sections of this paper are organized as follows: Section 2 presents existing related work in this area while section 3 describes the research methodology. In section 4 the analysis of the questionnaire results is discussed while section 5 concludes the paper and recommends a future research direction.

2. Literature review

By reading several earlier publications in related work, the authors tried to comprehend the conceptual foundations of the UTAUT model, the results have helped the authors get more specific knowledge about the topic [5]. The main factors that affect behavioral intentions toward technological acceptance are as follows, performance expectancy, effort expectancy, social influence, and facilitating conditions. While numerous studies have utilized a variety of moderators, such as age, gender, and experience, these are not the main factors that influence behavioral intentions [6]. Several models have been created during the course of time, the TAM (technological acceptance model) is one such model that was frequently utilized but was later found to have a number of drawbacks [7]. UTAUT is regarded as a well acknowledged model amongst those used to learn more about the adoption or acceptance of any new technology [6, 8-11]. Fig. 1 explains the disribution of the model, regarding the behavioral disribution, UTAUT makes four characteristics:

- Performance Expectancy "PE": the degree to which a person believes that using the system would improve job performance.
- Effort Expectancy "EE": the simplicity of the system and its use.
- Social Influence "SI": how peers affect how people perceive and choose to use technology.
- Facilitating Conditions "FC": people's perceptions of the availability of organizational and technical support for using the system.

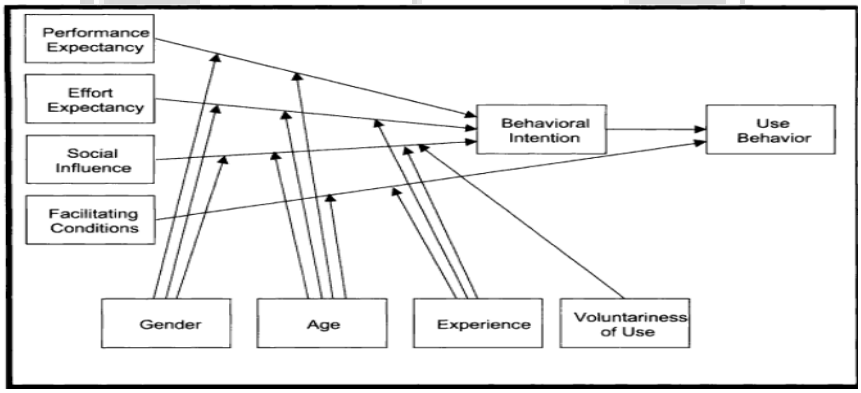

Fig. 1 UTAUT Model [4]

2.1 Performance expectancy (PE)

performance expectation is thought to be one of the most effective predictors of intention. It has a big impact on both voluntary and required consumption [4, 11, 12]. Performance expectation [4, 11-13] includes factors for system effectiveness, work performance improvement, productivity improvement, the potential for transferrable skill development, and improved work control.

2.2 Effort expectancy (EE)

The effort expectation (EE) theory explains the perceived complexity and ease of use. The simplicity of use is one of the key elements of TAM and has a big impact on perceived

usefulness and technology acceptability [4, 11]. The effort expectation has a significant impact on UTAUT validation in both cases of voluntary and forced usage. The variables in EE [4, 11, 12]. include the ease of collecting data, data clarity, capacity to recognize vital data, ease of interacting with the system, and the system's overall appearance and structure.

2.3 Social influence (SI)

The main focus of social influence is on how an individual perceives other individuals, groups, or their cultural identity, particularly how they interact with others and how technology affects their self-perception [4, 11, 13].

2.4 Facilitating conditions (FC)

The degree to which a person believes that the organizational and technological framework is in place to facilitate use of the system is known as the facilitating conditions [4, 11, 14].

3. Research Methodology

The proposed research methodology for this study involves the use of structured quantitative questionnaires administered to job seekers and faculty members in different universities in Libya and higher institutes with different education levels. This methodology allows for the collection of quantitative data to address the research questions and objectives of the study. The questionnaires are structured and designed to gather specific data relevant to the research objectives [15]. The questions are formulated to capture the impact of user acceptance of e-recruitment systems which are tailored to suit the research needs[4].

Research sampling refers to the process of selecting a subset of individuals or units from a sample population to participate in the research study. Sampling techniques aim to ensure that the selected sample is representative of the larger population and can yield reliable and generalizable results [15]. In our case, the sample population consisted of 59 participants including faculty members from

Libyan universities and higher institutes with different education levels and some business organization. By involving participants from different sectors, the questionnaire survey [4, 12, 13] can capture insights and experiences from diverse organizational contexts, contributing to the overall validity and applicability of the study's results.

In addition, Various statistical techniques, such as graphical methods have been employed to analyze the data. These techniques helped establish internal reliability and validity of the questionnaires and provided insights into the research questions. By utilizing a structured quantitative questionnaire approach, our study aims to collect specific data and achieve reliable and valid results. The data analysis methods applied will help uncover patterns, trends, and associations in the collected data, providing valuable insights into the impact of user acceptance of e-recruitment systems.

4. Results Analysis

By creating a questionnaire [4, 12, 13] and circulating it using Google Forms, the core data was gathered. The majority of survey participants were diplomas degree holders (34.5%), followed by

32.8 (n = 19) with master's degrees, 19% with bachelor degree, 8.6% with PhDs, and 5.2% with secondary school education. The majority of participants (32.8%) were full-time workers, while (12.1%) were unemployed. The gathered data was subsequently coded into Smart PLS 4 as shown in fig. 2 in order to comprehend the model in relation to the adoption of e-recruitment systems.

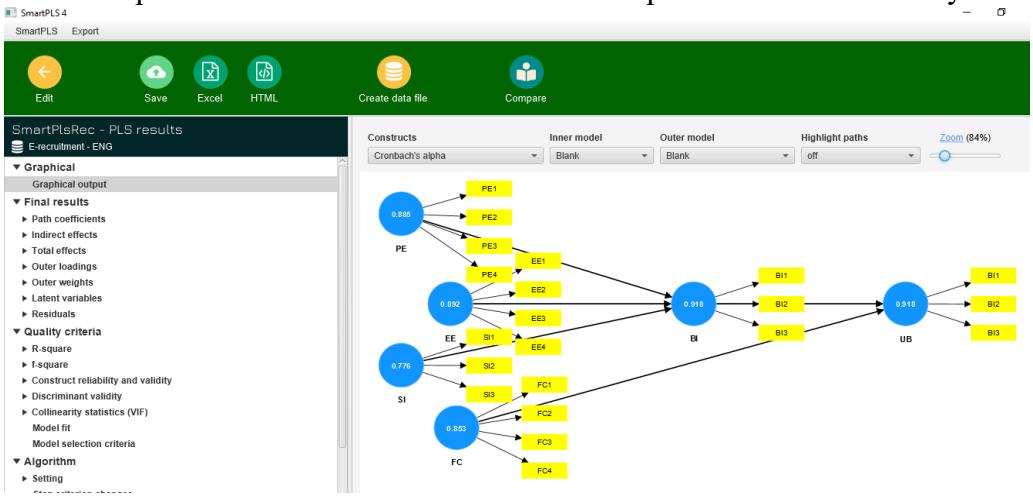

Fig. 2 Smart PLS4 algorithm.

The sample population consisted of 59 participants from Libyan universities and higher institutes, and different business organization. They responded to the offered survey based on their performance expectancy, effort expectancy, social influence, facilitating conditions, and behavioral intention. The replies to the UTAUT compliant questionnaire elements are provided in Table 4.

The Cronbach's alpha for the UTAUT is 0.918 for the Behavioral Intention, the performance expectancy was at 0.885, the effort expectancy at 0.892, the facilitating conditions at 0.853 and the social influence at 0.776 as shown in Table 1 indicating strong validity and acceptance of the technology use (based on the questionnaire measurements). It consists of a number of dimensions, including performance expectancy, effort expectancy, social influence and facilitating conditions as shown in Table 1.

Table 1: Reliability and validity statistics

Variable	Cronbach's Alpha
UTAUT-PE	0.885
UTAUT-EE	0.892
UTAUT-FC	0.853
UTAUT-SI	0.776
UTAUT-BI	0.918

As indicated in Table 2, the survey's five-point Likert scale had responses ranging from one to five, with one denoting "strongly disagree," two "disagree," three "neutral," four "disagree," and five

"strongly agree." The researcher can maintain consistency in the research findings with the help of likert questions.

Table 2: Likert response outcome scores

1 = strongly disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = strongly agree

The mean values for each of the five responds on the Likert scale that influence how questions are answered are shown in Table 3. The participants' level of agreement or disagreement with the statements in the questionnaire is measured by the mean value [16].

Table 3: Likert response mean values

Response	Mean value
1	1 to 1.79
2	1.8 to 2.59
3	2.6 to 3.39
4	3.4 to 4.19
5	4.2 to 5

According to analysis, the result is shown in Table 4 the mean response value for each survey element was 4.0 overall, indicating a high requirement for the system when compared to the Likert scale's minimum value of 3.4. Participants responses to each concept have been analyzed, and the mean response rate shows that participants generally agreed with the statements posed in the UTAUT questionnaire.

Table 4: UTAUT model survey

Question	1	2	3	4	5	Mean	Direction
PE1	1(1.7)	0 (0.0)	6(10.3)	18(31.0)	33(56.9)	4.414	5
PE2	1(1.7)	1(1.7)	3(5.2)	22(37.9)	31(53.4)	4.397	5
PE3	1(1.7)	0(0.0)	2(3.4)	20(34.5)	35(60.3)	4.517	5
PE4	2(3.4)	1(1.7)	12(20.7)	25(43.1)	18(31)	4	4
EE1	1(1.7)	2(3.4)	11(19)	30(51.7)	14(24.1)	3.931	4

EE2	1(1.7)	1(1.7)	6(10.3)	36(62.1)	14(24.1)	4.052	4
EE3	1(1.7)	1(1.7)	10(17.2)	27(46.6)	19(32.8)	4.052	4
EE4	1(1.7)	2(3.4)	13(22.4)	29(50)	13(22.4)	3.879	4
SI1	0(0.0)	2(3.4)	21(36.2)	18(31)	17(29.3)	3.862	4
SI2	0(0.0)	3(5.2)	24(41.4)	20(34.5)	11(19)	3.672	4
SI3	1(1.7)	2(3.4)	17(29.3)	28(48.3)	10(17.2)	3.759	4
FC1	1(1.7)	2(3.4)	12(20.7)	30(51.7)	13(22.4)	3.897	4
FC2	1(1.7)	3(5.2)	13(22.4)	25(43.1)	16(27.6)	3.897	4
FC3	1(1.7)	2(3.4)	14(24.1)	25(43.1)	16(27.6)	3.914	4
BI1	1(1.7)	2(3.4)	12(20.7)	25(43.1)	18(31)	3.983	4
BI2	1(1.7)	0(0.0)	8(13.8)	30(51.7)	19(32.8)	4.138	4
BI3	1(1.7)	0(0.0)	12(20.7)	24(41.4)	21(36.2)	4.103	4
BI4	1(1.7)	1(1.7)	13(22.4)	30(51.7)	13(22.4)	3.914	4

5. Conclusion

In summary, there are many achievable steps that Libyan organizations can take to become better job service facilitators for both the public and private sectors. The questions used in the study are based on Unified Theory of Acceptance and Use of Technology (UTAUT) model, taking into account the expected need and increase in demand for e-recruitment systems. The validity was demonstrated by the Cronbach's alpha values for the UTAUT items, Behavioral Intention estimated at 0.918, Effort Expectancy at 0.892, and so on as shown in Table 1. Which indicated a high degree of validity and acceptance of technology use. The poll includes 58 participants. The majority of survey participants were diplomas degree holders (34.5%), followed by 32.8 with master's degrees, 19% with bachelor degree, 8.6% with PhDs, and 5.2% with secondary school education.

In the future studies, there is a lot of potential to employ a variety of other factors to determine how they affect adoption in e-recruitment and Artificial Intelligent recruitment systems

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